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ABSTRACT

Schools of education are failing to meet the responsibility to produce teachers equipped to cope effectively with the increasingly complex world of cultural pluralism and rapidly developing technological advances. Challenges are present in the current demand for special education experts, adult education teachers, physical education and health teachers, bilingual teachers, and mathematics teachers. The greatest challenge, however, lies in the need for more individual instruction at all educational levels. Rising to meet this need is the new era of computer assisted instruction. Schools of education can be revolutionized with computer instruction. If schools of education are to profit from new technologies and meet the developing educational needs of our modern society, fundamental changes in their basic structure and orientation must occur. Education faculties should develop and market computer instructional software, thus providing experience with computers and providing a financial base for program funding. Education students should be taught to use computers effectively in teaching and to acquire the skills for developing and programing instructional modules in their own specialties for use in computer assisted instruction. (JD)

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# SCHOOLS OF EDUCATION--A TIME FOR REVOLUTION

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It has been nearly five years since the publication of *Educating a Profession*, the AACTE publication authored by Howsam, Corrigan, Denemark, and Nash, and heralded as a blueprint for our future.[1] Most of us sitting in Chicago listening to Bob Howsam speak on that cold February evening in 1976, could hardly wait for the advent of a new era for schools of education promised by this Bicentennial Commission report. Soon to be upon us, we believed, would be a period in which the preparation of educational personnel would clearly be *professional* education. Five years later not only are we still waiting, but the dawning of that new day seems further away than it did in 1976. Consider the following:

- The number of teachers attending extension and summer session graduate education courses has declined drastically within the past few years, as much as 30% last year alone, some institutions have reported. These declines have been attributed to the rapid growth in teacher centers and economic factors that cause teachers to seek summer employment and forego continuing education. Some states have changed certification regulations to permit teacher center attendance to count toward certificate renewal.

- Recently, the president of a midwestern state teachers association publicly berated the schools of education of his state for "willfully" ignoring the continuing educational needs of classroom teachers. Carefully documented were charges that institutions are using unprofessional methods to compete with one another in the credit market. They offer courses designed to attract, rather than educate teachers. They provide credits for little or no academic work, giving few--if any--grades lower than A, irrespective of performance. They fail to test or otherwise evaluate the performance of their students or their own instruction. Not only are these institutions failing to improve the level of instruction in the schools, it was charged, but through academic neglect and the setting of low standards they are directly contributing to the erosion of instructional quality.

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- Resolutions were presented last year by teachers' organizations to licensing authorities in several states that would place the preparation of teachers entirely in the hands of local school personnel. A California proposal would not have required any work beyond high school for prospective teachers. It called for the employment of high school graduates to train with "successful" teachers, much in the manner in which schools were staffed at the turn of the century.

- Because of declining enrollments, many programs of teacher education have built loopholes in admission requirements creating a situation tantamount to open enrollments, recent studies show.[2] With the availability of positions in management, law, medicine, and finance, bright young women are avoiding or forsaking careers in nursing and teaching--formerly their primary professional alternatives. This exodus, I believe, is a major contributing factor in the continuing decline of standardized test scores of education majors.

- Within the past year, over a quarter of those institutions of teacher education reviewed by the National Council for Accreditation of Teacher Education (NCATE) were denied accreditation of one or more programs. Reasons for program denial included failure to evaluate program products, failure to provide adequate clinical experiences, and failure of the institution to allow for professional control of the profession's programs.

- Subsequent to the sports credit scandals of last spring, the media soon noted that only 10% of those enrolled in bogus courses were athletes--the rest were virtually all teachers.

- Of the 7,500 estimated doctorates in education awarded in 1979-80, including both Ph.D.'s and Ed.D's over 18% or some 1,350 were "quickie" degrees granted by unrecognized diploma mills.

- In Los Angeles this summer, it took the District Attorney to close down St. Stephen's Education Bible College, which has turned out over 150 California teachers, many of whom are "strongly suspected" of never having had any college work. Yet the California certification office says they have no immediate plans to take action against those whose certificates were fraudulently obtained. "No one could demonstrate that teachers from St. Stephen's were any different from teachers anywhere else," was one excuse.

*Of Laurels and Dark Tidings*

Being a professional optimist, I am naturally disinclined to continue this litany of dark tidings. I have always been put off by those who seek a following or even make their living by touting bad news about anything--whether in journalism, religion, or education. But I am not a Pollyanna.

I am convinced that colleges, schools, and departments of education are in deeper trouble than they've ever been--and deeper than most realize.

As Director of NCATE, I do hear the good news along with the bad. In fact, I only wish that institutions would press upon the media reports of their accomplishments with the same degree of enthusiasm that they share good news with us. There is much for us to salute: a superior deaf education program in North Carolina: an outstanding evaluation effort in Tennessee; a superlative elementary education program in Oregon; and a massive teacher education development effort in Ohio. These and many other accomplishments deserve broad professional and public notice.

Schools of education have provided for the personnel needs of American schools that in some years seemed insatiable. They responded to Sputnik and generated the teachers that prepared American's astronauts and the astronomers, physicists, and engineers that placed them on the moon. And they did this without thanks, either from the astronauts on the moon, or from the chemists and poets across our campuses who have been kept employed by burgeoning enrollments in teacher education.

My mother, and hundreds of thousands of her generation, taught with life certificates acquired after two years of normal school. Nearly all of our nation's two million teachers now hold the baccalaureate, and over one-third have obtained advanced degrees. It is, I believe, fair to conclude that today's teachers are more socially aware, professionally conscious, knowledgeable about learning theory, and even more student-oriented than those who "kept school" in an earlier age. These are accomplishments of which our schools of education can be proud. But sitting on laurels has never provided much of a vantage point from which to solve problems of the present, let alone the future.

For whatever reason--lack of fiscal support or otherwise--the report card for schools of education shows that they are failing many of the basics. Schools of education are failing to keep up with the demands that state and federal legislation have forced upon public school personnel. They have failed to set and maintain high standards of instructional leadership. They have been caught up in the academic game of enrollments at any cost, which has led some to the very center of the current college credit scandal. They have failed to take a united stand against diploma mills that denigrate the substance of our profession. They have failed to respond to legitimate public concerns over professional competence and, on the other hand, to defend the profession against illegitimate allegations of teacher incompetence.

Schools of education have, for the most part, viewed the issues of school violence, teacher burnout, and the continued erosion of teacher salaries and buying power as problems outside the parameters of their interest or responsibility. As a consequence, they are viewed as irrelevant by an increasing number of the organized profession.

Schools of education have been unwilling to review social needs for their own numbers. Some 1,350 institutions currently offer teacher education programs. An estimated 100 are clearly phony institutions without regional accreditation and whose programs are not state-recognized, although their graduates--like those of St. Stephen's--can and do become licensed. Another 600 institutions are of the "marginal" category, which have one or two programs that intermittently graduate teachers. These institutions are, for the most part, regionally-accredited and state-approved. The remaining 700 institutions provide for more than 80% of the annual production of some 133,500 school personnel. While it is generally agreed

that there are too many producers of teachers, no one has wanted to deal with hard production issues. The price of that avoidance, however, is becoming more than we can afford.

Closer to home, we have been generally unable to solve campus problems that stymie the development of clearly professional schools. As David Clark and Gerald Marker have noted, teacher education has been crippled by funding formulas based on head count that favor cheap lecture formats over more expensive clinical models.[3] Those teacher educators who have championed clinical over academic experiences in professional education have received even lower rewards than academically-oriented colleagues. Because of campus reward structures, more talented professionals have gravitated toward research and administration, leaving the conduct of clinical experiences and undergraduate teacher education in the hands of either the extremely dedicated, or modestly able.

Not all problems of schools of education can be blamed on the attitudes or constraints of the campus community. One of our greatest handicaps has been the lack of common beliefs or recognition of existing professional knowledge. Dan Lortie, in his 1975 sociological study of teachers, noted that a peculiarity of the behavior of teachers is their reliance upon personal belief and myth over any recognized professional knowledge base--even when that base clearly exists.[4] I believe this attitude has been institutionalized in schools of education. While differences of opinion can create invigorating intellectual exchanges and an environment conducive to healthy intellectual growth, too much division can create a cacophony of professional discord that confuses our friends and bemuses our enemies. It can destroy academic respect and professional credibility alike. In this

October's issue of the *Phi Delta Kappan* appears an article by B. Othanel Smith in which he says:

> Proponents of open education, basic education, competency-based education, social reform education, futuristic education, humanistic education, scientific pedagogy--you name it--divide college faculties into rival camps, afflicting them with schisms comparable to what would exist in medical schools were their faculties made up of chiropractors, osteopaths, shamans, and faith healers along with physicians and surgeons. In this medley of orientations, doctrines, and opinions, it is next to impossible for a faculty to agree upon anything resembling fundamental change in its programs. Professors typically agree to tolerate their differences so long as each can go his or her own way, in the belief that these cleavages constitute the conditions of creativity and change. This is a strategy of wallowing in confusion with false hope.[5]

Professional discord and dissonance, notes Smith, lead to instructor-based professional curricula. Courses exist to fill the needs of individual faculty members, not to meet student needs. Departments vie with one another to make their courses required rather than elective, both to sell their viewpoint as well as bring in the lifeblood of student head count. Lack of status and money produce subsystems of prejudice. Pecking orders and hierarchies of title become paramount. Castes develop. Some are based on subject (*e.g.*, elementary education/higher education administration), others on assignment (*e.g.*, student teachers supervisors/research specialists), and still others on titles (*e.g.*, assistant professor/full professor/department chairperson/dean). Tenure, originally intended to protect academic freedom, is used to defend the caste structure. The system thereby tends to support those who will not alter their academic skills, either to keep pace with new knowledge or to meet changing professional needs.

Classsroom teachers, school counselors, school psychologists, and other local school employees, with the exception of school superintendents

and a principal thrown in now and then, operate outside the campus caste system. They, of course, have their own. As most prejudicial systems, these castes cost us dearly in wasted effort and wasted resources. Prevailing evidence suggests that they may eventually cost us our profession.

*Opportunities and Possibilities*

There are glimmers of hope. Opportunities for development and improvement of professional schools of education are being overlooked systematically. Schools of education are, I believe, missing the boat in any number of areas. Let us examine some of these opportunities and suggest how, as participants in a united profession, schools of education might take advantage of them.

Consider first the realm of special education. Until special educators began bringing in grant money, they were kept in the closet as once were the children they serve. Now P.L. 94-142 mandates the mainstreaming of exceptional children and the preparation of regular classroom teachers to instruct them. Yet lack of appropriately-prepared teachers is noted by the U.S. Department of Education as the principal reason for the unconscionable delays that have impeded implementation of the law. Thirty-two states last year reported having "great difficulty" in filling positions in special education, with 20 stating that they have had to employ persons with substandard qualifications.[6] P. L. 94-142 also requires the development of Individual Educational Plans (IEP's) for each exceptional child. There are insufficient specialists to prepare IEP's--another factor that has stalled implementation of P.L. 94-142. The national need for special education personnel is imperative.

Desegregation remains at the forefront of the crises in public educational policy. Yet despite the fact that few teachers or school administrators will avoid dealing with desegregation issues, in professional curricula throughout the country one will find few--and often no--opportunities for the study of crisis intervention, social change, desegregation law, or--for that matter--relevant materials for administering or teaching school in our multicultural society. The prevailing attitude in some circles was recently captured in the remark of a Texas dean who said to us: "Why in the world would we need to include multicultural education in our program when our campus is literally overrun with Mexicans!" Obviously, there is a great need for education leaders and instructors skilled in dealing with the culturally diverse.

Teaching centers have been regarded by many as the bane of professional schools of education. It is true that much of the support for centers has come from teachers and administrators who found schools of education to be irrelevant or unresponsive to their instructional needs. While teaching centers in some states have all but prohibited the involvement of schools of education, in many areas opportunities abound for direct involvement of professional faculties in program operations of centers. Teaching centers, don't forget, are a monument to the in-service professional needs of teachers. Teacher educators, with optimum communication skills and on-going relationships with the public schools, should be able to establish and maintain channels through which involvement in teaching centers would be essential, not merely desirable.

The immense amounts of leisure time our technocracy currently provides us, and promises for the future, would seem to offer the ultimate environment for development in American education. We now have the resources and time

to deal with adult education. "Education for leisure time," as a fundamental goal will become increasingly paramount as we have more time and as our adult population increases in size and age. Yet the slowness with which adult education programs have developed in this country has been maddening. Adult education needs will increase geometrically over the next two decades. Yet few schools of education have taken even initial steps to accommodate the demand.

According to recent University of Texas data, functional illiteracy has increased in recent years to the point that now over one-fifth of American adults do not have the prerequisite skills to meet the demands of daily reading, writing, listening, or calculating. One of the most ignored educational projects ever financed by the late U.S. Office of Education was the massive adult basic education drive of the early 1970's. Yet few education projects of the federal government were ever more importantly needed, or given less attention by professional educators than was ABE.

While basic education would seem imperative for a democracy, no less important to our nation is international education. The President's Commission on Foreign Language and International Studies has specifically called upon schools of education to increase the numbers of those educators who can engender in American youth essential knowledge of foreign cultures and language.[7] In this world of international brinksmanship and confrontation, it is fundamental to our very survival that the nation's electorate possess knowledge of world affairs. Whereas the President's Commission has also charged the media with responsibility in this regard, for the American people to acquire a reasonable understanding of international events, they must have the basic skills to do so. Teachers are needed who

themselves possess the essential understandings of our multicultural world--and the skill to communicate this knowledge.

Another area of critical need for teachers is in physical and health education. So much has been said and written about the state of American hearts, arteries, sex lives, pandemic pregnancies and veneral infections, nutrition, nerves, substance abuse, cholesterol levels, and need for exercise, that little I could say would add to the declaration of need in this area--with one possible exception. The American Alliance for Health, Physical Education, Recreation, and Dance, the umbrella organization representing one of teacher education's largest constituencies, has declared a major drive to improve quality controls in the preparation of physical and health educators. The Association is also convinced that *all* educators must become aware of their responsibility for educating the total being--that mental and physical welfare are inseparable. Physical and health education must be "mainstreamed," as it were. Personnel are needed who can work with students, teachers, and communities alike in taking physical education out of the locker rooms and into the classrooms of our schools.

Similarly, the National Association for Bilingual Education has announced its demands for more of a share of the education of American teachers. This year, Spanish-speaking Americans became the nation's largest minority--a fact that may have escaped many educators, but evaded few Congressmen. Those who believe that bilingual education is only a concern for those teaching Mexican-Americans in the Southwest and Cubans in Flordia evidence the problem. Spanish-speaking and other language enclaves exist in every major city in the nation, to say nothing of concentrations in most rural areas. The national mandate is clear--American schools are to teach *all* youngsters, irrespective of their exceptionalies, cultures, and

languages. Preparing teachers to enter American schools without a knowledge of the language of over 10% of America's children is less than defensible. Yet fewer than one percent of the nation's teachers are Hispanic. Should we not require Spanish, or a language appropriate to the attendance area of anticipated instruction or administration, of those who enter the profession? With far less reason or purpose, we once required Latin of anyone who sought to teach school.

Teachers are also needed in yet another language area--the language of mathematics. The National Council of Teachers of Mathematics (NCTM) is alarmed by national statistics that show alarming declines in the computational skills of American youngsters and their teachers. Many factors impinge upon this problem. Principal among the reasons cited by the NCTM, however, is the pervading lack of qualified teachers of mathematics as well as a widespread reduction in computational skill levels of general elementary and secondary teachers. Thirty states report great difficulty in acquiring mathematics teachers, and half of these admit to employing teachers who lack appropriate credentials.[8] With much publicity and fanfare, the NCTM recently announced a national drive to improve computational skills both in grades K-12, as well as in schools that prepare teachers. Do not mistake this for another version of the "back to basics" movement. Rather, these are the dramatic concerns of serious educators that our youngsters are not acquiring the computational skills essential to meet the demands of our modern society, whether in their personal affairs, in business, industry, or science.

As impressive as any area of potential for development in teacher education is that of the new frontier of learning resources. Applications of electronic microcircuitry have led to a panoply of new audiovisual aids

and instructional materials. Some of these new inventions appeared under last year's Christmas tree, where we found hand-held calculators that could teach algebra, play mathematical games, give multiple-choice tests, and even talk back. But wait until you see what is under this year's tree. Invited to attend the Consumer Electronics Design and Engineering Exhibition in Chicago this June, I was allowed an advance peek at future Christmas presents. I found that hand-held calculators have mutated once again. There are now machines that teach foreign language. These do not merely display simple phrases, but actually teach how to conjugate verbs--the works--and they talk! Texas Instruments has a machine that teaches spelling. Allegedly this device is for children, but many adults will profit from its use. It provides drills, keeps records of words missed and feeds back mispelled words into later drill sequences. Old-fashion spelling bees may be replaced by contests to see whether one electronic speller can outspell another. In the hands of appropriately-prepared teachers, however, all of these devices can help us achieve the dream of teaching for individual differences.

One device that promises much by way of self-instruction and self-direction is the microcomputer. With dropping costs and expanding computer capability, conservative estimates project that by 1982 there will be 105,000 computers in American classrooms, more than double the estimated 50,000 that presently exist.[9] In 15 years, more American homes are expected to have computers than television sets, and virtually every school will be fully equipped.

These developments hold dramatic implications for classroom instruction. Computers will provide for individual drill. They will allow the convenience

of individually-paced learning, providing teachers with greater instructional flexibility. Their greatest value, however, will be in the creative applications individual learners develop for themselves. Although computers will never replace books as convenient, adaptable and inexpensive media, new generations of personal computers will open doors we cannot foresee, creating instructional opportunities we cannot yet visualize. It is toward that future that our attention in the preparation of today's teachers should be directed. Writing for a special issue of *BYTE Magazine* on computer assisted instruction, Ludwig Braun suggests that schools of education should work toward the development of "centers" that serve the educational community by:

1. Keeping abreast of developments in information technology.
2. Advising educators about capabilities and the limitations of hardward and courseware.
3. Training teachers in the uses of computers in learning environments.
4. Developing large amounts of high-quality courseware and training teachers to develop their own.[10]

Opportunities provided for schools of education by such developments seem nearly endless.

Another striking electronic development that portends great implications for education schools is the videodisc. Gill Tauffner, director of audiovisual services for Atlantic Public Schools, the city where videodiscs were first marketed in this country, believes that the videodisc may well be the most efficient and effective form of information storage and retrieval ever devised. A videodisc looks, of course, much like a normal long-playing record. Through a laser-bounce process that alleviates the need for a stylus, causing no wear on the disc surface, high fidelity

color television pictures and multi-phonic stereo are provided. The storage capacity of each disc is incredible. An entire encyclopedia, for example, could be stored on one side of a single disc.

Anticipating future needs, the NEA and ABC have begun the Schooldisc Program, a project to supply videodisc material for elementary grades. Sometime in 1981 the project is expected to have available 20 one-hour programs as its first step in providing disc material for the nation's elementary schools.

As with most new inventions, videodiscs will first be used for old purposes, but eventually they will acquire new uses of their own. Videodiscs can be made to interact with microcomputer systems to create an extremely effective tool of self-instruction. The need for the development of multi-media systems, and the preparation of personnel to operate these systems and prepare appropriate courseware for them, provides virtually unlimited opportunity for the astute school of education faculty.

Another new development that portends well for classroom use is interactive television. Whether a student interacts with a computer, a teacher, or fellow students, interactive television can promote individual instruction, or it can make possible interactive instruction of diverse students by a common teacher--a teacher who may be leagues, or even continents away. This fall the third and final Communications Satellite (COMSAT) will be placed in an orbit that will suspend it in a position over the United States, thus making 24-hour, worldwide communication possible between any two points on the globe. A receiver on top of any school building in the nation, for example, could permit immediate television interaction by that school with any other school or with any other broadcaster in the world. The implications of such possibilities are obvious. Teacher

educators, classroom instructors, administrators, and students, can be placed in instant communication with one another at an extremely low per pupil cost. Again, the availability of such technology provides mind-boggling opportunities for schools of education.

We have only scratched the surface in developing the field of electronic instructional media. Currently being marketed are holographic devices for the teaching of geometry, as well as the science of holography itself. Holography, you may recall, is the projection of multidimensional, colored images. Recent occurrences in the science of holography have demonstrated the feasibility of three-dimensional motion projection--not 3-D movies that one sits in front of, but three-dimensional broadcasts that one can circumnavigate or, as recently demonstrated in Japan, one can actually enter for the ultimate, lifelike environmental experience. Holographic, three-dimensional television, is expected to be marketed in the United States as early as 1989.

Beyond the bright future of learning resources is the even more intriguing field of pharmacological applications to learning. Biogenics and pharmacology are joining to create substances that may prolong attention spans, enhance memory, and facilitate learning in all of its aspects. The advent of the "smart pill" would seem nearly upon us with all the implications that holds for instruction, supervision, and even ethics in future classrooms.

Despite all of the possibilities of this *Star Wars* future ahead of us, we must come crashing back to the reality of our educational world of 1980, where we find nearly half of American parents not wanting their children to "...take up teaching in the public schools as a career."[11] A world in which

the profession of education is divided into so many caste systems and subsystems that communication has become nearly impossible. A world in which flim-flam artists abound, making possible entire businesses based upon the sale of bogus credentials. A world in which classroom teachers find phony credit as acceptable as credit for the pap many of them have experienced in so-called legitimate in-service programs. A world in which the caliber of those allowed to enter the profession has, by any standard, reached an unacceptable low. How do we change that world? How can we gain sufficient strength so that schools of education can survive to take advantage of the opportunities that surround them even now and hold such promise for the future?

*A Needed Revolution*

If schools of education are to profit from new technologies and meet the developing educational needs of our modern society, fundamental changes in their basic structure and orientation must occur. The old excuse that "the university system won't let us change," is just that--an excuse. All professions and disciplines on university campuses now suffer from the maladies of inadequate support and declining job markets--even law and medicine. University structures, however, have tended to reward the successful. If schools of education can break out of the "death spiral" of defeatist thinking, they should have an excellent chance to gain the active support of those same institutional factors that now appear to be detracting from our pursuits.

Ways must be found to re-tool faculty, both in terms of their thinking and professional skill. This may mean that the security blankets of tenure

amd a 50-year-old professional curricula will have to be put aside, or at least supplanted by aims better oriented to survival. Much would be accomplished if we could change the fiscal orientation of schools of education from one dependent on student head count to such an entrepreneurial venture as selling software and courseware products to the endless markets of industry, hospitals, and the media, as well as to the schools. In short, we should inject a little free enterprise into what has become a sluggish, bureaucratic management structure. Presently, much of the courseware being prepared for the business and industry community, as well as for medicine and other professions, is provided by technicians who have no background in curriculum or instruction. Marketing instructional software would open numerous career opportunities for students, as well as bring in needed resources to supplant reduced income from low enrollments in traditional programs.

One important step would be to re-open bureaus of educational services to manage and market educational software. The non-school community could be expected to provide an infinite market for microcomputer and videodisc courseware as well as more conventional instructional media. Schools would provide an especially lucrative market for software and courseware. Although teachers have and will continue to prepare much of their own material, the level of sophistication and the time required to produce useful materials for high-technology media will require more time and energy than teachers have available. The production of videodisc courseware will also require more sophisticated transcribing equipment than public schools can afford. One drawback of the videodisc is that it does not record as simply as videotape, although the quality of the final product is far superior. Already, however, audiodigital recording equipment is on the consumer market, and

visualdigital transcribing equipment is anticipated by the end of the decade. Sales of videodisc courseware are difficult to project, but current interest and expressed demand would suggest an annual market well into the tens of millions of dollars.

Projections for marketing software for computer assisted instruction can be estimated more accurately. Arthur Luehrmann, director of computer research for the University of California at Berkeley, estimates the current potential at $50 million annual sales for instructional courseware for microcomputers in public schools alone (26,000 schools, times 300 students per year, times $6.00 per student is probably a conservative estimate).[12] As increasing numbers of American homes acquire personal computers, the market for home-based computer assisted instruction is expected to soar. opening an even larger market. Texas Instruments is presently producing courseware for the primary grades, concentrating on the teaching of basic skills. There is no reason that schools of education--particularly with the computer resources available on most campuses--should not be in the forefront of courseware production. Schools of education should be either directly assisting or competing with the private sector for this gigantic instructional market.

If schools of education can marshall their forces and "go for a piece of the action" in the marketplace, substantial changes in professional perceptions will occur. For example, fragmentation has burdened the profession for years by dividing our resources and wasting our efforts through duplication in subspecialty after subspecialty. First we had principal teachers who begat principals. We parceled out secondary education from elementary. When that was not enough, we subdivided again into junior high school education, and soon into preschool, kindergarten, primary,

middle grades, middle schools, senior highs, community colleges, to say nothing of the plethora of new subject areas--social studies, language arts, and some 85 secondary subject specialties. Counselor education, school psychology, and other human service areas are themselves now fragmenting into clinical counseling, career guidance services, and special education subspecialties *ad infinitum*. The result has been the production of teachers so specialized that they neither have the skills nor feel any responsibility for instruction outside a particular narrow field. Those prepared to teach elementary reading, for example, see little connection between their area of professional skill and say, adult education. A situtation has been created that would be somewhat like having schools of architecture train some architects to build houses, some to build banks, some hospitals, others factories, rather than providing a common general knowledge base for all who enter their profession.

Tremendous forces of creative energy would be unleashed if faculties and students in schools of education could be united around the central concept of *instruction*. Development and use of learning resources would follow as the next logical effort. The management and marketing of instructional resources would constitute the third principal endeavor. I believe that inherent in this design is a new reason for being for schools of education, as well as the basis for a new organizational structure and improved financial base. Such a model would provide marketplace flexibility, even for state institutions. This flexibility would enable schools of education to take advantage of opportunities in non-school settings, as well as provide needed incentive and agility for meeting educational needs.

Mutual effort would focus common professional knowledge and energies on such pervasive needs as those I've cited in special education, school desegregation, in-service education, adult education, foreign language and international studies, physical and health education, bilingual education, mathematics instruction, and all the other areas of opportunity that are presently passing us by. Of particular benefit would be the boost that a marketing approach might give to professional morale. Professors of education who now see their roles restricted to subject specialties of no application and generally low esteem could find their efforts translated into marketable production, requiring the valuable input of those with special skills in learning theory, instructional technology, administration and management, and measurement and evaluation. Students would be provided expanded opportunities for direct clinical experiences on campus. Inter-relationships between campus and K-12 classrooms would become not only professionally desirable but imperative to the credability and marketability of materials produced. Such activity could not help but involve professional faculty more directly in the programs of teacher centers and in other activities of the united profession and lead them to deal directly with problems of professional competence, teacher burnout, school violence and vandalism, teacher load, school plant construction and maintenance, and school management--in fact the entire array of issues that now seem to many to be the problems of someone else.

While specialties are probably inevitable, if not always desirable, specialization in a market model would be due to professional need rather than artificial dichotomy. As in other professions, specialities would become outgrowths of a general knowledge base rather than artificial divisions developed in isolation from the rest of the profession. Perhaps we would

find that many of the subdivisions we now believe to be imperative would no longer have meaning and would wither away.

For those special skills that transcend the abilities of general instructors, there can always be provision through combinations of experience and coursework. These skills can then be individually tested and licensed by appropriate credentialing authorities.

Such reform in schools of education would constitute a revolution that might be particularly painful to those who have comfortably been cranking out generations of pre-service teachers of less than sterling quality and for whom there is little demand. The era in which was tolerated that secure, if mundane, activity in teacher education is rapidly drawing to a close. A new age is beginning. An age in which instruction will be more dynamic more widely available, better individualized, and even more entertaining than it has ever been before. Schools of education may either surrender the field of instruction to the private sector or to other segments of the education profession, or they can pay the dues of reform and provide leadership in reorganizing and modernizing instruction in our society.

## REFERENCES


1. Robert B. Howsam, Dean C. Corrigan, George W. Denemark, and Robert J. Nash, *Educating a Profession.* Report of the AACTE Bicentennial Commission on Education for the Profession of Teaching. Washington, D.C.: American Association of Colleges for Teacher Education, 1976.

2. See, *e.g.*, The Report of the Sloan Commission on Government and Higher Education, *A Program for Renewed Partnership.* Cambridge, Mass.: Ballinger Publishing Co., 1980.

3. David L. Clark and Gerald Marker, "The Institutionalization of Teacher Education," in Kevin Ryan (ed.), *Teacher Education: 74th Yearbook of the National Society for the Study of Education, Part II.* Chicago: University of Chicago Press, 1975, pp. 53-86.

4. Dan C. Lortie, *Schoolteacher: A Sociological Study.* Chicago: University of Chicago Press, 1975.

5. B. Othanel Smith, "Pedagogical Education: How About Reform?" *Phi Delta Kappan,* 62(2), October, 1980.

6. NEA Research Memo, *Teacher Supply and Demand in Public Schools, 1979.* Washington, D.C.: National Education Association.

7. President's Commission on Foreign Language and International Studies, *Strength Through Wisdom--A Critique of U.S. Capability.* Washington, D.C.: Superintendent of Documents, No. 017-080-02065-3, November, 1979.

8. NEA. *Ibid.*, p. 14.

9. Creative Strategies, Inc., Marketing Report, *Instructional-Technology,* August, 1979.

10. Luwig Braun, "Computers in Learning Environments--an Imperative for the 1980's," *BYTE Magazine,* 5(7): 114, July, 1980.

11. George H. Gallup, "The 12th Annual Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan,* 62(1):38, September, 1980.

12. Arthur Luehrmann, "Computer Illiteracy--A National Crisis and a Solution for It," *BYTE Magazine,* 5(7):102, July, 1980.